

Nebraska Watershed Boundary Dataset Pilot Project

based on 11/26/02 WBD Working Group discussion

Pilot Project Goal

Conduct a Watershed Boundary Dataset (WBD) pilot project for an 8-digit HUC watershed area in Nebraska in a manner to establish develop the baseline information needed to support decisions on possible statewide WBD development, including: resource needs; design guidelines; technical approach; data sources; collaborative processes; and data integration.

Objectives

1. Create a WBD database for the Logan Creek Watershed in NE Nebraska.
2. Provide baseline information and experience upon which to base a decision to proceed, or not, with statewide WBD development.
3. Develop baseline data for the time and resources required for the four main phases of WBD development [1. EDNA dataset development; 2. draft WBD development; 3. interagency review and revision of draft WBD; and 4. final digitizing].
4. Explore and define relationships between the existing Nebraska watershed boundary dataset (DNR-wbd) developed and maintained by the Nebraska Department of Natural Resources and the WBD standard.
5. Explore the flexibility of WBD national guidelines relative to building upon and incorporating the existing DNR-wbd dataset area boundaries and attributes.
6. Explore the relationship between NHD and WBD coding; definition of contributing areas; and matching pour points and confluence of segments.
7. Develop institutional buy-in and support for a statewide WBD development effort if it were to be undertaken.
8. Develop guidelines and processes for interagency review and revision of draft WBD datasets.
9. Explore the relationship between the existing 10 m DEMs dataset at USGS-EROS and the most recent revised version of elevation contours developed by DNR.
10. Conduct pilot project and WBD derivation based on three different elevation datasets and evaluate the relative merits of the different elevation dataset (EROS 30 m DEMs; EROS 10 m DEMs; and 10 m DEMs derived from DNR's revised contour data, if there is determined to be a significant difference with the 10 m EROS data).
11. Familiarize Nebraska-based staff with WBD and EDNA (Elevation Derivatives for National Applications) tools and processes.
12. Review WBD approach for adjacent states and consider implications for a Nebraska WBD effort.
13. Explore options and procedures for changing existing 8-digit HUC boundaries.
14. Explore the relationship between EDNA and Arc Hydro tools and datasets and the implications for a Nebraska WBD project.

Task Break-out Based on Objectives (#'s relate back to objective #s)

3a. All parties involved (Susan Greenlee, Karen Hanson, & Nebr. Folks) will be asked to track project time by phase and retrieve best available estimates based on past experience.

Key responsible person: Matt Cast

4a. Get WBD dataset and DNR-wbd dataset for the same 8-digit area and compare relative to lines and attributes and make a report to the Working Group

Key responsible person: Rich Kern

4b. Develop two sets of draft WBD boundary lines based on DNR 10 m contours, one following basic EDNA tools (WBD-basic) and one using DNR-wbd pour points for a starting point reference.

Key responsible person: Karen Hanson

5a. Look at current DNR-wbd boundaries and highlight areas in Logan Creek watershed where WBD guidelines could be an issue and report to the Working Group.

Key responsible person: Rich Kern

5b. See 4a and 4b.

6a. Secure permission from USGS-EROS to share EDNA tools and dataset with Nebraska participants and ensure that a Henry has a complete set.

Key responsible person: Matt Cast

6b. Share EDNA dataset and tools with Josh, Rich, Steve, and Sonya.

Key responsible person: Matt Cast

6c. Huddle of Josh, Rich and John to explore NHD, EDNA and current DNR-wbd dataset to explore optimal approach for generating draft WBD boundaries that incorporate DNR-wbd pour points and/or key NHD confluences.

Key responsible persons: Josh Lear, Rich Kern and John Bender

8a. Convene the WBD Working Group meeting when the draft WBD datasets are available to draft guidelines for an interagency review process with the goal of developing review guidelines for a possible statewide effort. Proposed goal of review process is to make a good faith effort to develop a WBD dataset that is a relatively accurate reflection of the physical reality on the ground.

Key responsible persons: Matt Cast and Larry Zink

8b. Convene a WBD Working Group meeting after the review and revise process is complete for the pilot project and reflect on the review process and make revisions to the review guidelines as deemed appropriate.

Key responsible persons: Matt Cast and Larry Zink

9a. Check with EROS to determine the source, timeliness, and processing methodology of the EROS 10 m DEMs to make an assessment of the merits of developing new 10 m DEMs derived from DNR revised contours.

Key responsible persons: Josh Lear

10a. Confirm with Susan Greenlee and Karen Hanson that they are willing to conduct the pilot project based on 3 different EDNA dataset versions (EROS 30 m DEMS; EROS 10 m DEMS; and 10 m DEMs derived from DNR's revised contours). Could also involve the development of two draft WBD boundaries based on DEMs derived from DNR contours (see 4b).

Key responsible persons: Matt Cast

10b. If USGS EROS can not or will not develop 10 m DEMs based on DNR's revised contours, DNR will develop 10 m DEMs and give to EROS.

Key responsible persons: Josh Lear

10 c. USGS-EROS develops 3 different EDNA datasets for Logan Creek watershed (EROS 30 m DEMS; EROS 10 m DEMS; and 10 m DEMs derived from DNR's revised contours) and provides EDNA tools and technical support of Nebraska pilot project

Key responsible persons: Susan Greenlee

10d. Karen Hanson, NRCS, develops draft WBD datasets for Logan Creek based on 3 different EDNA dataset (EROS 30 m DEMS; EROS 10 m DEMS; and 10 m DEMs derived from DNR's revised contours) and two version of based on the 10 m DEMs derived from DNR's revised contours (WBD-basic, and WBD using DNR-wbd pour points, see 4b.).

Key responsible persons: Karen Hanson

11a. Secure permission from USGS-EROS to share EDNA tools and dataset with Nebraska partners.

Key responsible persons: Matt Cast

11b. Get folks together over at Conservation and Survey for a demo from Henry

Key responsible persons: Henry Bulley

12a. Contact Missouri folks who developed WBD and see what we can learn from their processes, successes and mistakes.

Key responsible persons: Matt Cast

13a. Review WBD specifications and contact Kenny Legleiter.

Key responsible persons: Matt Cast

14a. Research and report on relationships between EDNA tools and database and ArcHydro and any implications for Nebraska WBD effort.

Key responsible persons: Sonja Sebree